

**REMARKS**

The Applicants thank the Examiner for the thorough consideration given the present application. Claims 5-11, 15, 18, 20, 23, and 35-38 were previously cancelled. Claims 1-4, 12-14, 16, 17, 19, 21, 22, 24-35 are pending. Claim 1 is independent.

**By way of this Supplemental Amendment, independent claim 1 has been amended herein merely to correct a typographical error in line 4. Specifically, the words “Li-Bi acetic solution” has been changed to “Li-Bi solution”.**

The Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein.

**Examiner Interview**

If, during further examination of the present application, a discussion with the Applicants' Representative would advance the prosecution of the present application, the Examiner is encouraged to contact Carl T. Thomsen, Registration No. 50,786, at 1-703-208-4030 (direct line) at his convenience.

**Rejections Under 35 U.S.C. §103(a)**

Claims 1-4, 11-14, 16, 17, 19, 21, 24-26, 28-31, 33, and 34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over GB 2161647 in view of Buchanan et al. (U.S. 4,283,228) and further in view of Fernandez et al.;

claims 5-10 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over GB 2161647 in view of Buchanan and further in view of Fernandez et al. and either of Akiyama et al. or Thiele et al.;

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claim 22 stands rejected under 35 U.S.C. §103(a) as being unpatentable over GB 2161647 in view of Buchanan et al., and further in view of Fernandez et al. and Maas et al.;

claim 27 stands rejected under 35 U.S.C. §103(a) as being unpatentable over GB 2161647 in view of Buchanan et al., and further in view of Fernandez et al. and Yao et al.;  
and

claim 32 stands rejected under 35 U.S.C. §103(a) as being unpatentable over GB 2161647 in view of Buchanan et al., and further in view of Fernandez et al. and Chen et al.

These rejections are respectfully traversed.

**Amendments to Independent Claim 1**

While not conceding the appropriateness of the Examiner's rejection, but merely to advance the prosecution of the present application, independent claim 1 has been amended to recite a combination of steps directed to a method of producing a piezoelectric ceramic thick film on a substrate, said method comprising:

- mixing liquid phase precursors of  $\text{Li}_2\text{O}$  and  $\text{Bi}_2\text{O}_3$  metal oxides to form a Li-Bi solution;
- forming a suspension of a piezoelectric ceramic material in powder form and a fluid medium by ultrasonic vibration;
- forming a liquid mixture by mixing the suspension of powdered material with the Li-Bi solution, the  $\text{Li}_2\text{O}$  and  $\text{Bi}_2\text{O}_3$  having melting points lower than a temperature required for densifying the piezoelectric ceramic thick film by sintering, said liquid mixture obtained by mixing the suspension of powdered material and the Li-Bi solution having a

greater degree of homogeneity than that of a mixture obtained by mechanically mixing the powdered material.

Arguments regarding the patentability of independent claim 1 are set forth in the Amendment filed on July 29, 2008, and thus are not repeated here

At least for the reasons explained above, the Applicants respectfully submit that the combination of method steps as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including GB 2161647, Buchanan et al., and Fernandez et al.

Therefore, independent claim 1 is in condition for allowance.

**Dependent Claims**

All dependent claims are in condition for allowance due to their dependency from allowable independent claims, or due to the additional novel features set forth therein.

Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §103(a) are respectfully requested.

*Application No. 10/680,229*  
*Amendment dated July 31, 2008*  
*Reply to Office Action of October 31, 2007*

*Docket No.: 4249-0112P*  
*Art Unit: 1762*  
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**CONCLUSION**

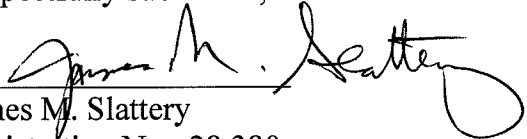
All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, he is invited to telephone Carl T. Thomsen (Reg. No. 50,786) at (703) 208-4030(direct line).

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

Dated: July 31, 2008

Respectfully submitted,

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